

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re New Divisional Application of)
Axel O. ZUR LOYE et al.)
Based on Application No. 10/387,579) Group Art Unit: 3747
Which Was Filed: March 14, 2003) Examiner: John Kwon
For: MULTIPLE OPERATING MODE)
ENGINE AND METHOD OF)
OPERATION)

INFORMATION DISCLOSURE STATEMENT

Mail Stop Patent Application
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure as set forth in 37 C.F.R. §1.56, Applicants hereby submit the following information in conformance with 37 C.F.R. §§ 1.97 and 1.98.


The references were cited in Application No. 10/ 387,579, filed March 14, 2003, upon which is based a claim for priority under 35 U.S.C. §120. Pursuant to 37 C.F.R. §1.98(d), a copy of the documents is not required.

A discussion of U.S. Patent Nos. 4,768,481; 5,535,716; 5,832,880 and 5,875,743; SAE Technical Paper Nos. 790501; 790840; 830264; 892068; 920512; 972874 and 971676; German Patent No. 198 18 596; and patent application Serial No. 08/916,437 (now U.S. Patent No. 6,286,482) is given in the specification at pages 4-6.

This Information Disclosure Statement is not intended to constitute an admission that any patent, publication, or other information referred to herein is "prior art."

It is requested that the accompanying information disclosure statement be considered and made of record in the above-captioned application. To assist the Examiner, the documents are listed on the attached form PTO-1449. It is respectfully requested that an Examiner initialed copy of this form be returned to the undersigned.

Respectfully submitted,

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke extending to the right.

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Date: January 23, 2004

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>			Complete if Known	
			Application Number	
			Filing Date	
			First Named Inventor	
			Group Art Unit	
			Examiner Name	
Sheet 1 of 4			Attorney Docket Number	

U.S. PATENT DOCUMENTS						
Examiner Initials	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
		3,924,598		Davis	12-09-1975	
		4,499,885		Weissenbach, deceased et al.	02-19-1985	
		4,603,674		Tanaka	08-05-1986	
		4,622,939		Matekunas	11-18-1986	
		4,768,481		Wood	09-06-1988	
		5,048,470		Geddes et al.	09-17-1991	
		5,050,550		Gao	09-24-1991	
		5,123,397		Richeson	06-23-1992	
		5,467,757		Yanagihara et al.	11-21-1995	
		5,476,072		Inventor	12-19-1995	
		5,535,716		Sato et al.	07-16-1996	
		5,549,087		Gray, Jr. et al.	08-27-1996	
		5,832,880		Dickey	11-10-1998	
		5,875,743		Dickey	03-02-1999	
		5,890,459		Hedrick et al.	04-06-1999	
		6,032,617		Willi et al.	03-07-2000	
		6,230,683	B1	zur Loye et al.	05-15-2001	
		6,276,334	B1	Flynn et al.	08-21-2001	
		6,286,482	B1	Flynn et al.	09-11-2001	
		2001/0017127	A1	Flynn et al.	08-30-2001	

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ⁵ (if known)				
		EP	0 747 636	A2	McLeroy et al.	12-11-1996		
		GB	2 315 297	A	Akimoto et al.	01-28-1998		
		DE	195 19 663	A1	Schmidt et al.	05-15-1996		
		DE	198 18 596	A1	Nieberding	11-25-1999		

Examiner Signature		Date Considered	
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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			First Named Inventor	Axel O. ZUR LOYE	
			Group Art Unit	3747	
			Examiner Name	John Kwon	
Sheet	3	of	4	Attorney Docket Number	740270-2920

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		SHIGERU ONISHI et al., "Active Thermo-Atmosphere Combustion (ATAC) — A New Combustion Process for Internal Combustion Engines", SAE Technical Paper No. 790501, February 26-March 2, 1979.	
		MASAAKI NOGUCHI et al., "A Study on Gasoline Engine Combustion by Observation of Intermediate Reactive Products during Combustion", SAE Technical Paper No. 790840, September 10-13, 1979.	
		PAUL M. NAJT et al., "Compression-Ignited Homogeneous Charge Combustion", SAE Technical Paper No. 830264, (1983).	
		R.H. Thring, "Homogeneous-Charge Compression-Ignition (HCCI) Engines", SAE Technical Paper No. 892068, September 25-28, 1989.	
		SONG-CHARNG KONG et al., "Modeling Combustion in Compression Ignition Homogeneous Charge Engines", SAE Technical Paper No. 920512, (1992).	
		NORIMASA IIDA, "Combustion Analysis of Methanol-Fueled Active Thermo-Atmosphere Combustion (ATAC) Engine Using a Spectroscopic Observation", SAE Technical Paper No. 940684, February 28-March 3, 1994.	
		JUN HARADA et al., "Development of Direct Injection Gasoline Engine", SAE Technical Paper No. 970540, February 24-27, 1997.	
		ALLEN W. GRAY, III et al., "Homogeneous Charge Compression Ignition (HCCI) of Diesel Fuel", SAE Technical Paper No. 971676, May 5-8, 1997.	
		NORIMASA IIDA, "Alternative Fuels and Homogeneous Charge Compression Ignition Combustion Technology", SAE Technical Paper No. 972071, (1997).	
		MAGNUS CHRISTENSEN et al., "Homogeneous Charge Compression Ignition (HCCI) Using Isooctane, Ethanol and Natural Gas — A Comparison with Spark Ignition Operation", SAE Technical Paper No. 972874, October 13-16, 1997.	
		JACK YAMAGUCHI, "Honda Readies Activated Radical Combustion Two-Stroke Engine for Production Motorcycle", <i>Automotive Engineering</i> , January 1997, pp. 90-92.	

Examiner Signature		Date Considered	
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		DON WILLIAMS, "Editor's EXP-2 Impression: Riding the \$500,000 Honda", pp. 14-15.	
		J. RAY SMITH, et al., "Homogeneous Diesel Combustion", June 18, 1996, pp. 1-4.	
		"Clean Heavy-Duty Diesel Engine-II Program – Homogeneous Charge Compression Ignition (HCCI) of Diesel Fuel", SWRI Project No. 03-7479, Southwest Research Institute, November 1997.	

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